

In re Appln. of Jobst LAHRSON
Appln. No. 10/576,151
Reply to Office Action mailed
September 15, 2009
Amend. dated December 15, 2009

REMARKS

The Official Action of September 15, 2009, and the prior art relied upon therein have been carefully reviewed. The claims in the application are now claims 11, 13-20 and new claims 24-35, and these claims are respectfully submitted to define novel and unobvious subject matter, whereby such claims should be allowed. Accordingly, favorable reconsideration and allowance are respectfully urged.

Claim 17 has been rejected under the second paragraph of §112, and has now been cosmetically amended to obviate such rejection.

For the record, and on the other hand, Applicant believes that even though the antecedent basis was not perfect, the claim was nevertheless clear in its previous form, and thus fully in accordance with the second paragraph of §112.

Withdrawal of the rejection is respectfully requested.

New claims 24-35 have been added, with claims 24 and 25 depending from and incorporating the subject matter of claim 11, and therefore being patentable at least for the same reasons as claim 11, as pointed out below.

New claim 26 is a new independent claim, and is patentable for much the same reasons as claim 11, as pointed out below. According to the present invention, it is important that the calcium content be between 50 and 150 mMol/kg. Starting from this calcium content, the transparency and homogeneity of

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the chewable mass, as well as its remineralizing capacity, can be controlled by using differing calcium-complexing acids. This is both novel and nonobvious from the prior art.

New claims 27-35 depend from and incorporate the subject matter of claim 26, and therefore are patentable at least for the same reasons as claim 26.

Claims 11, 13-16 and 20 have been rejected under §102 as being anticipated by Muhler et al USP 4,400,372 (Muhler). This rejection is respectfully traversed.

Claims 12 and 21-23 have not been so rejected. Features from claims 12, 22 and 23 have now been incorporated into claim 11, and therefore Applicant understands that this rejection is no longer deemed by the PTO to be applicable to claims 11, 13-16 and 20, and Applicant is proceeding in reliance thereof.

In more detail, Muhler discloses a chewing gum capable of cleaning and imparting a high degree of polish to teeth due to the incorporation of kaolin, an abrasive particulate. Conventional chewing gum bases are used as mentioned at col. 6, lines 14-27. Muhler does not disclose gelatin as a thickener, and does not produce a transparent and homogeneous chewable mass. In addition, Muhler does not disclose either the calcium content or the phosphoric acid content as now called for in claim 11.

Withdrawal of the rejection is in order and is respectfully requested.

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Claims 11, 14-16, 19 and 20 have been rejected as obvious under §103 from WO 00/62762 in the name Mazurek, Reed and Broderick (hereinafter Broderick) in view of Muhler. This rejection is respectfully traversed.

Again, claims 12 and 21-23 have not been so rejected, so Applicant understands that in view of the amendments made above, the PTO no longer considers this rejection applicable. Applicant is proceeding in reliance thereof.

Withdrawal of the rejection is in order and is respectfully requested.

Claims 11, 12, 14-16 and 20 have been rejected as obvious under §103 from Wiedemann CA 2,138,780 (Wiedmann) in view of Muhler. This rejection is respectfully traversed.

Again, claims 21-23 have not been so rejected. As the features of claims 22 and 23 are now incorporated into claim 11, Applicant understands that the PTO no longer deems this rejection applicable, and Applicant is proceeding in reliance thereof.

Withdrawal of this rejection is in order and is respectfully requested.

Claims 17 and 18 have been rejected as obvious under §103 from Wiedemann in view of Muhler and further in view of Yang et al, U.S. Patent Application Publication 2001/0051197 (Yang). This rejection is respectfully traversed.

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As with the other §103 rejections briefly replied to above, here also claims 12 and 21-23 are not included, whereby Applicant understands that it is the PTO position that claims 21-23 are not rejected over the proposed combination of Wiedemann in view Muhler and Yang, i.e. Applicant understands that this rejection no longer applies. As with the other prior art rejections discussed above, Applicant is proceeding in reliance thereof.

Wiedemann discloses a chewable mass which presumably may contain gelatin in place of sugar, a sugar substitute or gum Arabic for use in candy embodiments, but there is no indication in Wiedemann that the use of gelatin provides a transparent and homogeneous chewable mass.

If the person of ordinary skill in the art were to attempt to modify Wiedemann by any disclosure of Muhler, such a person would need to adopt from Muhler that which Muhler indicates is important, and that would include the required kaolin particles taught by Muhler. Such a modification would, of course, absolutely result in a chewable mass which would not be transparent and homogenous.

Moreover, Wiedemann does not disclose the claimed method, and Applicant does not see that any possible combination of Wiedemann in view of Muhler would result in the claimed process.

Withdrawal of the rejection is in order and is respectfully requested.

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Claims 21 and 22 have been rejected as obvious under §103 from Wiedemann alone. This rejection is respectfully traversed.

First, as already pointed out above, the features of claims 21 and 22 have now been incorporated into claim 11. Claim 11 in its previous form was correctly not rejected as either anticipated by or obvious from Wiedemann. It therefore follows that claim 11, whether or not incorporating the features of claims 21 and 22, would not have been obvious under §103 from Wiedemann, and Applicant is proceeding in reliance thereof.

In more detail, however, Wiedemann discloses varying forms of a preparation "for the prophylactic and therapeutic treatment of caries, in the form of a chewable mass, chewable sweets, sucking sweets, toothpaste, mouthwash, mouth spray and similar." (Top of page 1.) A general statement is made in the penultimate paragraph on page three of the alternative use of gelatin for "a sucking sweet" in place of sugar or a sugar substitute, and gum arabic is mentioned as another possibility.

A generic disclosure is given in the last two paragraphs on page 5 and the top paragraphs on page 6 for "sucking sweets or chewable sweets with an average retention time of 5-8 minutes in the mouth,..." in which the quantity of calcium or calcium compounds is stated to be 200 to 800 mM per kg. No specific examples are given, and no mention is made of the use of gelatin for such a product.

Perhaps more importantly, the broad range of 200-800 mM is outside Applicant's range of 5-150 mM. Also, while

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Wiedemann provides a generic disclosure for a product ("sucking sweets or chewable sweets"), no method of making such a product is disclosed.

Withdrawal of the rejection is in order and is respectfully requested.

Claims 21-23 have been rejected as obvious under §103 from Broderick. This rejection is respectfully traversed.

As discussed above, claim 11 was rejected as obvious under §103 from Broderick in view of Muhler, but claims 21-23 were not so rejected. With incorporation of the subject matter of claims 22 and 23 into claim 11, the Applicant would assume that the rejection of Broderick in view of Muhler would be applied except for the subject matter of claim 12 which has also been incorporated into claim 11. However, as claim 12 has been incorporated into claim 11, Applicant understands that the rejections based on Broderick alone or Broderick in view of Muhler would no longer be applied, and Applicant is proceeding in reliance thereof.

Nevertheless, to make the record more complete, Applicant notes, as already stated above, that Muhler discloses a chewing gum capable of cleaning and imparting a high degree of polish to the teeth, which chewing gum comprises a chewable gum base. Muhler also discloses that the chewable mass contains calcined kaolin particles with a median diameter of about 2 μ m. Regular chewing of the Muhler chewing gum permits a high degree of polish to be imparted to the oral hard tissues and allows

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dental plaque to be removed from the dental surfaces (col. 3, lines 54-59).

The chewing gum of Muhler is neither transparent nor homogenous in view of the presence of the kaolin particles which appear to be a critical feature of the Muhler chewing gum. Muhler also does not disclose the use of gelatin as a thickener (which, in the present invention, produces a transparent and homogenous chewable mass), or gelatin for any purpose. Further, Muhler does not disclose the calcium content and phosphoric acid content of claim 11.

Broderick discloses a chewing gum for the remineralization of tooth enamel which comprises an insoluble gum base which generally contains elastomers, resins, fats and oils, softeners, and inorganic fillers (page 7, lines 7-12), with a content of filler being about 4-35 weight % (page 7, lines 15 and 16). The fillers/texturizers are identified at page 8, lines 15-19; and titanium dioxide, used as a whitener, but which is also abrasive, may also be included (page 8, line 25).

Broderick does not disclose gelatin as a base mass, or indeed gelatin for any purpose.

Accordingly, Applicant agrees that claim 11 would not have been obvious from Broderick alone, or from Broderick in view of Muhler, and Applicant is proceeding in reliance thereof.

No rejection appears to have been imposed under §103 based on any proposed combination of Broderick, Wiedemann and

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Muhler, and Applicant agrees, it being Applicant's belief that no reasonable combination of these references would be obvious, and that any such combination would provide the claimed subject matter.

As noted above, Broderick discloses a chewing gum for tooth enamel remineralization comprising an insoluble gum base containing a variety of components including inorganic fillers, but not including gelatin. Applicant believes that a person skilled in the art would not have combined the calcium carbonate content of Broderick with the base mass including gelatin as incidentally disclosed by Wiedemann and with any of the subject matter of Muhler. It is noted that Wiedemann discloses the base mass gelatin in connection with a calcium content for the remineralization of tooth enamel, whereby the person skilled in the art would have used the calcium content disclosed by Wiedemann, not that of Broderick.

The Applicant/inventor surprisingly found that despite a reduced calcium content in the range of 50-150 mMol/kg compared to the chewable sweets disclosed by Wiedemann, good mineralization can be achieved. This effect is due to the fact that the local concentration is particularly high because the chewable mass adheres onto the tooth surface and saliva-conditioned removal of calcium and phosphate ions does not take place to a significant degree in the contact area between the chewable mass and the teeth (paragraph [0023]). It could not have been reasonably foreseen, predicted or expected that this would occur with such a reduced calcium content.

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Moreover, the reduced calcium content provides another advantageous result which is not achieved in the prior art, and this concerns the transparency and homogeneity of the chewable mass as claimed (paragraphs [0012], [0013] and [0020]).

As regards new independent claim 26, Applicant respectfully notes that Yang discloses a calcium fortified low acid beverage. According to Yang, the water solubility of calcium is enhanced when at least two different organic acids are combined with a basic calcium salt. However, it would not have been obvious to a person of ordinary skill in the art that using two different organic acids would improve a gelatin based chewable mass.

Better water solubility of the calcium means that more calcium can be dissolved in water. However, too much calcium adversely affects the thickening reaction of gelatin in a negative way such that the chewable mass would not be transparent and would not be homogenous, as noted in Applicant's paragraph [0019].

According to the present invention, it is important that the calcium content be between 50 and 150 mMol/kg. With this calcium content, the transparency and homogeneity of the chewable mass as well as its remineralizing capacity can be controlled by using different calcium-complexing acids. Yang does not give the person of ordinary skill in the art any hint on how to control the transparency and homogeneity of a gelatin based chewable mass.


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The prior art documents of record and not relied upon by the PTO have been noted, along with the implication that such documents are deemed by the PTO to be insufficiently material to warrant their application against any of Applicant's claims.

Applicant believes that all issues raised in the Official Action have been addressed above in a manner that should lead to patentability of the present application. Favorable consideration and early formal allowance are respectfully requested.

If the Examiner has any questions or suggestions, he is respectfully requested to contact the undersigned at (202) 628-5197.

Respectfully submitted,
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